

ON-LINE APPENDIX

The First Biennial Comprehensive Survey of Neuroradiologists' Current Work Effort and Environment

This is a survey from James Y. Chen and Frank J. Lexa. The goal of the survey is to assess all practice environments of currently practicing neuroradiologists throughout United States. Our goal is to identify trends, attitudes, and effects of changes in the neuroradiology work environment and to publish these results so that practitioners and practice leaders can have better data to improve the management of the neuroradiology practice environment. We plan to repeat the survey every other year. We estimate that the survey may take up to 10–15 minutes.

Survey responses will be kept confidential. The survey will close on October 5, 2016. Survey respondents who complete the survey and provide an e-mail address before October 5, 2016, will be entered into a drawing for a \$250 gift certificate from Amazon.com. The drawing will be held on October 10, 2016, and the winner will be notified by e-mail.

1) In your daily practice, do you routinely teach radiology residents or fellows?

2) How long have you been in practice? Still in training, 1–5 years, 6–10 years, 11–15 years, 16–20 years, 21–25 years, 26–30 years, ≥ 31 years

3) When do you intend to retire from radiology practice? 0–5 years, 6–10 years, 11–15 years, 16–20 years, 21–25 years, 26–30 years, ≥ 31 years

4) During the last few years, have you changed employers? Not applicable, once, twice, ≥ 3 times

5) Compared with last year, has your total financial compensation package increased, decreased, or stayed the same?

6) Compared with last year, has your overall combined vacation and nonclinical professional time increased, decreased, or stayed the same?

7) Does your practice use RVU targets to determine radiologist compensation? (yes/no)

8) Does your practice require RVUs to exceed a specific full-time-equivalent RVU target before hiring an additional full-time equivalent (FTE)? If so what are the thresholds? Not applicable, <25% of an FTE, 26%–50% of an FTE, 51%–75% of an FTE, 76%–100% of a FTE, >100% of an FTE, I don't know

9) Over the last few years, has the number of RVUs that you generate gone up, down, stayed the same, don't know?

10) Over the last few years, I am working: more hours per day, fewer hours per day, about the same?

11) How often does your usual daily work extend >1 hour beyond the expected workday? Never, rarely, sometimes, frequently, always

12) Over the last few years, I am working: more days, fewer days, about the same

13) Over the last few years, I am reading more cases per work hour, fewer, about the same

14) Over the last few years, I work more weeks per year, fewer weeks per year, about the same

15) If you are working more or harder, the pressure to work harder comes from department chair, hospital administration, practice CEO/president, myself, other (please fill in)

16) Over the last few years, I take more call, less call, about the same

17) Over the last few years, my call (per hour or per shift) is harder, easier, or about the same

18) Over the last few years, over a weekend of call (Friday night to Monday morning), how many studies do you read?

- X CTs
- Y MRIs.
- Z ultrasounds
- A radiographs
- B other

19) How often do you feel that you need to interpret cases faster than you are comfortable with for optimal interpretation? Never, rarely, sometimes, frequently, always

20) How often do you feel that you need to sign reports faster than you are comfortable with for optimal communication and clarity? Never, rarely, sometimes, frequently, always

21) How often do you feel that you have too little time to discuss important abnormal results with clinicians? Never, rarely, sometimes, frequently, always

22) How often do you feel that you have too little time to report abnormal results? Never, rarely, sometimes, frequently, always

23) Over the last few years, my neuro fellows are more capable, less capable, about the same, or I don't work with fellows

24) Over the last few years, my residents are more capable, less capable, about the same, or I don't work with residents

25) Over the last few years, how often do you read cases when you are sleep-deprived? Never, rarely, sometimes, frequently, always

26) Over the last few years, how often do you have to cut back on the following because your clinical duties leave you inadequate time? Never, rarely, sometimes, frequently, always

- The time you spend teaching residents, fellows, or medical students
- The time you spend for mentoring
- The time you spend on research or publications
- The time you spend contributing to local practice building (conferences, hospital committee work)
- The time you spend as a volunteer contributing to professional societies (ASNR, American College of Radiology, Radiological Society of North America, and so forth)
- The time you spend attending Continuing Medical Education conferences
- The time you spend reading journals
- The time you spend away from work

27) Compared with 5 years ago have you experienced

- Greater fatigue (yes/no)
- Difficulty relaxing after work (yes/no)
- Greater anxiety or depression (yes/no)
- Diminished enthusiasm or effectiveness at work (yes/no)

28) Over the last few years, have your practice administrators made concrete changes to the practice to balance changes of your clinical workload with your nonclinical duties? (yes/no/not applicable)

29) Have you considered retiring earlier than you had initially intended when first starting practice? (yes/no)

30) In the last few years, have you considered changing careers? (yes/no)

31) In the past few years, as a percentage of your work, has the number of poorly indicated and/or unindicated studies increased, decreased, stayed constant?

On-line Table 1: Workplace and job characteristics

	Overall			Teaching			Nonteaching			<20 Years' Experience			≥20 Years' Experience		
	% Response	Responses	Skipped	%	No.	Skipped	%	No.	Skipped	%	No.	Skipped	%	No.	Skipped
4) During the last few years, have you changed employers?			0			0			0			0			0
NA	77.8%	336		83.5%	187		72.0%	144		76.3%	200		80.0%	136	
Once	17.4%	75		14.3%	32		20.5%	41		19.5%	51		14.1%	24	
Twice	3.9%	17		1.8%	4		6.0%	12		3.8%	10		4.1%	7	
≥3 times	0.9%	4		0.4%	1		1.5%	3		0.4%	1		1.8%	3	
5) Compared with last year, has your total financial compensation package			3			0			3			2			1
Increased	28.4%	122		30.8%	69		25.9%	51		36.5%	95		16.0%	27	
Decreased	23.1%	99		17.9%	40		28.4%	56		19.2%	50		29.0%	49	
Stayed the same	48.5%	208		51.3%	115		45.7%	90		44.2%	115		55.0%	93	
6) Compared with last year, has your overall combined vacation and nonclinical professional time			3			3			0			3			0
Increased	8.4%	36		6.3%	14		10.5%	21		10.4%	27		5.3%	9	
Decreased	18.6%	80		16.7%	37		20.0%	40		18.1%	47		19.4%	33	
Stayed the same	73.0%	313		76.9%	170		69.5%	139		71.4%	185		75.3%	128	
7) Does your practice use RVU targets to determine radiology compensation?			1			0			1			0			1
Yes	32.5%	140		43.3%	97		20.6%	41		29.8%	78		36.7%	62	
No	67.5%	291		56.7%	127		79.4%	158		70.2%	184		63.3%	107	
8) Does your practice require RVUs to exceed a specific FTE RVU target before hiring an additional FTE? If so, what?			0			0			0			0			0
NA	45.6%	197		31.7%	71		61.5%	123		42.0%	110		51.2%	87	
<25% of an FTE	0.0%	0		0.0%	0		0.0%	0		0.0%	0		0.0%	0	
26%–50% of an FTE	1.6%	7		2.2%	5		1.0%	2		1.5%	4		1.8%	3	
51%–75% of an FTE	5.3%	23		4.0%	9		6.0%	12		4.6%	12		6.5%	11	
76%–100% of an FTE	6.7%	29		8.9%	20		3.5%	7		6.9%	18		6.5%	11	
>100% of an FTE	5.6%	24		7.6%	17		3.5%	7		5.7%	15		5.3%	9	
I don't know	35.2%	152		45.5%	102		24.5%	49		39.3%	103		28.8%	49	
9) Over the last few years, has the number of RVUs you generate gone			0			0			0			0			0
Up	62.7%	271		62.1%	139		64.5%	129		60.7%	159		65.9%	112	
Down	6.5%	28		7.1%	16		5.5%	11		5.3%	14		8.2%	14	
Stayed the same	16.4%	71		18.8%	42		13.0%	26		17.2%	45		15.3%	26	
I don't know	14.4%	62		12.1%	27		17.0%	34		16.8%	44		10.6%	18	
10) Over the last few years, I am working			1			0			1			1			0
More hours per workday	49.7%	214		57.1%	128		41.2%	82		50.6%	132		48.2%	82	
Fewer hours per workday	3.5%	15		1.3%	3		6.0%	12		3.8%	10		2.9%	5	
About the same hours per workday	46.9%	202		41.5%	93		52.8%	105		45.6%	119		48.8%	83	
11) How often does your usual daily work extend >1 hr beyond the expected workday?			2			0			2			1			1
Never	7.2%	31		3.1%	7		11.6%	23		8.0%	21		5.9%	10	
Rarely	20.2%	87		14.7%	33		26.3%	52		18.0%	47		23.7%	40	
Sometimes	27.7%	119		27.2%	61		28.8%	57		29.1%	76		25.4%	43	
Frequently	29.5%	127		31.7%	71		26.8%	53		29.9%	78		29.0%	49	
Always	15.3%	66		23.2%	52		6.6%	13		14.9%	39		16.0%	27	
12) Over the last few years, I am working			3			2			1			3			0
More days	38.0%	163		41.9%	93		34.2%	68		40.9%	106		33.5%	57	
Fewer days	7.9%	34		5.4%	12		10.6%	21		6.2%	16		10.6%	18	
About the same	54.1%	232		52.7%	117		55.3%	110		52.9%	137		55.9%	95	
13) Over the last few years, regarding the number of cases you are reading, are you reading on average			2			2			0			1			1
More cases per hour	71.9%	309		73.9%	164		70.0%	140		72.0%	188		71.6%	121	
Fewer cases per hour	4.2%	18		3.6%	8		4.5%	9		3.1%	8		5.9%	10	
About the same number of cases per hour	24.0%	103		22.5%	50		25.5%	51		24.9%	65		22.5%	38	
14) Over the last few years, regarding the number of weeks you work, do you work			1			0			1			0			1
More weeks per year	23.2%	100		24.6%	55		22.1%	44		24.0%	63		21.9%	37	
Fewer weeks per year	6.0%	26		3.1%	7		9.0%	18		6.1%	16		5.9%	10	
About the same number of weeks per year	70.8%	305		72.3%	162		68.8%	137		69.8%	183		72.2%	122	

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On-line Table 1: Continued

	Overall			Teaching			Nonteaching			<20 Years' Experience			≥20 Years' Experience		
	% Response	Responses	Skipped	%	No.	Skipped	%	No.	Skipped	%	No.	Skipped	%	No.	Skipped
15) If you are working more or harder, the pressure to work harder comes from (please check all that apply)			9			3			6			5			4
Department chairperson	30.0%	127		46.2%	102		12.4%	24		32.7%	84		25.9%	43	
Hospital/practice administration	34.8%	147		44.8%	99		23.7%	46		38.9%	100		28.3%	47	
My practice CEO/president	25.3%	107		17.6%	39		34.5%	67		25.3%	65		25.3%	42	
Myself	40.2%	170		34.8%	77		46.4%	90		42.0%	108		37.3%	62	
NA, I am not working more or harder	10.9%	46		10.4%	23		11.3%	22		8.6%	22		14.5%	24	
Other (please specify)	23.2%	98		22.6%	50		23.2%	45		21.0%	54		26.5%	44	
16) Over the last few years, regarding call coverage, are you on call			33			10			22			10			23
More days/nights	36.6%	146		39.3%	84		33.7%	60		41.3%	104		28.6%	42	
Fewer days/nights	9.3%	37		7.5%	16		11.2%	20		7.1%	18		12.9%	19	
The same number of days/nights	54.1%	216		53.3%	114		55.1%	98		51.6%	130		58.5%	86	
Other (please specify)		47			16			31			19			28	
17) Over the last few years, regarding on-call time (per hour or per shift), is your on-call time			23			6			17			9			14
More difficult	59.7%	244		66.5%	145		51.4%	94		61.3%	155		57.1%	89	
Easier	4.9%	20		4.6%	10		5.5%	10		4.7%	12		5.1%	8	
About the same	35.5%	145		28.9%	63		43.2%	79		34.0%	86		37.8%	59	
18) Over the last few years, over a weekend of call (Friday night to Monday morning), approximately how many studies do you read?			104			36			66			60			44
CTs (average)	85.81	320		91.85	185		78.55	129		88.98	196		80.8	124	
MRIs (average)	43.71	318		53.98	182		29.7	130		43.72	197		43.71	121	
Ultrasounds (average)	19.58	215		10.9	103		28.15	108		20	135		18.86	80	
Radiographs (average)	92.55	236		58.89	116		127.72	116		86.9	150		102.41	86	
Other (average)	13.01	106		6.82	56		21.21	47		17.1	68		5.68	38	
31) In the last few years, as a percentage of your work, has the number of poorly indicated and/or unindicated studies			3			0			2			1			2
Increased	62.2%	267		62.5%	140		62.6%	124		66.3%	173		56.0%	94	
Decreased	4.0%	17		1.8%	4		6.6%	13		4.6%	12		3.0%	5	
Stayed the same	33.8%	145		35.7%	80		30.8%	61		29.1%	76		41.1%	69	

Note:—NA indicates not applicable; FTE, full-time equivalent.

On-line Table 2: Changes in interpretive performance and trainees

	Overall			Teaching			Nonteaching			<20 Years' Experience			≥20 Years' Experience		
	%	No.	Skipped	%	No.	Skipped	%	No.	Skipped	%	No.	Skipped	%	No.	Skipped
19) How often do you feel that you need to interpret cases faster than you are comfortable with for optimal interpretation?			3			1			2			1			19
Never	6.1%	26		5.4%	12		6.6%	13		3.1%	8		10.7%	18	
Rarely	14.5%	62		15.7%	35		13.1%	26		17.2%	45		10.1%	17	
Sometimes	44.1%	189		44.8%	100		43.4%	86		46.4%	121		40.5%	68	
Frequently	29.1%	125		26.9%	60		31.3%	62		26.4%	69		33.3%	56	
Always	6.3%	27		7.2%	16		5.6%	11		6.9%	18		5.4%	9	
20) How often do you need to sign reports faster than you are comfortable with for optimal communication and clarity?			2			1			1			1			1
Never	12.6%	54		10.8%	24		14.6%	29		10.7%	28		15.4%	26	
Rarely	18.4%	79		17.5%	39		19.1%	38		18.8%	49		17.8%	30	
Sometimes	32.3%	139		34.1%	76		30.7%	61		34.5%	90		29.0%	49	
Frequently	28.6%	123		30.5%	68		26.6%	53		27.6%	72		30.2%	51	
Always	8.1%	35		7.2%	16		9.0%	18		8.4%	22		7.7%	13	
21) How often do you feel that you have too little time to discuss important abnormal results with clinicians?			1			1			0			1			0
Never	13.0%	56		9.9%	22		17.0%	34		9.2%	24		18.8%	32	
Rarely	19.3%	83		23.3%	52		14.0%	28		21.8%	57		15.3%	26	
Sometimes	35.3%	152		34.1%	76		37.0%	74		35.6%	93		34.7%	59	
Frequently	27.4%	118		27.4%	61		27.0%	54		26.8%	70		28.2%	48	
Always	5.1%	22		5.4%	12		5.0%	10		6.5%	17		2.9%	5	
22) How often do you feel that you have too little time to report abnormal results?			2			1			1			0			2
Never	18.8%	81		19.7%	44		18.6%	37		14.9%	39		25.0%	42	
Rarely	23.5%	101		21.5%	48		24.1%	48		22.9%	60		24.4%	41	
Sometimes	31.9%	137		32.7%	73		31.2%	62		35.1%	92		26.8%	45	
Frequently	21.2%	91		21.5%	48		21.1%	42		21.4%	56		20.8%	35	
Always	4.7%	20		4.5%	10		5.0%	10		5.7%	15		3.0%	5	
23) Over the last few years, my neuroradiology fellows are			1			0			1			0			1
More capable	5.6%	24		9.8%	22		0.5%	1		5.3%	14		5.9%	10	
Less capable	10.4%	45		17.0%	38		3.0%	6		11.8%	31		8.3%	14	
Equally capable	25.5%	110		46.0%	103		3.0%	6		26.7%	70		23.7%	40	
I don't work with neuroradiology fellows	58.5%	252		27.2%	61		93.5%	186		56.1%	147		62.1%	105	
24) Over the last few years, my residents are			1			0			1			0			1
More capable	4.9%	21		9.4%	21		0.0%	0		4.2%	11		5.9%	10	
Less capable	22.5%	97		39.3%	88		2.5%	5		26.7%	70		16.0%	27	
Equally capable	26.5%	114		48.2%	108		2.5%	5		24.8%	65		29.0%	49	
I don't work with residents	46.2%	199		3.1%	7		95.0%	189		44.3%	116		49.1%	83	
25) Over the last few years, how often do you read cases when you are sleep-deprived?			1			0			1			1			0
Never	16.5%	71		16.1%	36		17.1%	34		13.0%	34		21.8%	37	
Rarely	32.3%	139		30.8%	69		34.2%	68		30.7%	80		34.7%	59	
Sometimes	36.0%	155		36.6%	82		34.2%	68		41.0%	107		28.2%	48	
Frequently	13.5%	58		14.3%	32		13.1%	26		12.6%	33		14.7%	25	
Always	1.9%	8		2.2%	5		1.5%	3		2.7%	7		0.6%	1	

On-line Table 3: Changes in noninterpretive efforts

	Overall			Teaching			Nonteaching			<20 Years' Experience			≥20 Years' Experience		
	% Excluding NA	No.	Skipped	% Excluding NA	No.	Skipped	% Excluding NA	No.	Skipped	% Excluding NA	No.	Skipped	% Excluding NA	No.	Skipped
26) Over the last few years, how often did you have to cut back on the following because your clinical duties leave you inadequate time?															
The time you spend teaching residents, fellows or medical students		5	3		2			4			1				
Never	6.5%	17		3.7%	8		24.3%	9		3.8%	6		10.9%	11	
Rarely	13.5%	35		12.8%	28		13.5%	5		11.9%	19		15.8%	16	
Sometimes	31.9%	83		31.2%	68		37.8%	14		31.4%	50		32.7%	33	
Frequently	38.1%	99		41.3%	90		18.9%	7		40.3%	64		34.7%	35	
Always	10.0%	26		11.0%	24		5.4%	2		12.6%	20		5.9%	6	
NA		167			3			161			99			68	
The time you spend for mentoring		4	2								3				1
Never	6.4%	17		3.3%	7		19.6%	10		4.3%	7		9.6%	10	
Rarely	13.5%	36		13.8%	29		9.8%	5		11.0%	18		17.3%	18	
Sometimes	31.1%	83		31.4%	66		29.4%	15		32.5%	53		28.8%	30	
Frequently	39.3%	105		41.4%	87		31.4%	16		41.7%	68		35.6%	37	
Always	9.7%	26		10.0%	21		9.8%	5		10.4%	17		8.7%	9	
NA		161			12			147			96			65	
The time you spend on research or publications		7	3								4				3
Never	4.1%	10		1.5%	3		15.9%	7		3.1%	5		5.8%	5	
Rarely	8.1%	20		6.1%	12		15.9%	7		6.3%	10		11.6%	10	
Sometimes	24.8%	61		24.9%	49		25.0%	11		22.5%	36		29.1%	25	
Frequently	43.5%	107		46.2%	91		31.8%	14		48.8%	78		33.7%	29	
Always	19.5%	48		21.3%	42		11.4%	5		19.4%	31		19.8%	17	
NA		179			24			152			98			81	
The time you spend on local practice building (eg, conferences, hospital committee work)		5	3								4				1
Never	8.0%	30		6.0%	12		10.0%	17		5.9%	14		11.5%	16	
Rarely	14.4%	54		15.5%	31		12.9%	22		14.4%	34		14.4%	20	
Sometimes	38.1%	143		34.5%	69		42.4%	72		40.3%	95		34.5%	48	
Frequently	30.7%	115		34.0%	68		27.1%	46		30.5%	72		30.9%	43	
Always	8.8%	33		10.0%	20		7.6%	13		8.9%	21		8.6%	12	
NA		52			21			28			22			30	

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On-line Table 3: Continued

	Overall			Teaching			Nonteaching			≤20 Years' Experience			≥20 Years' Experience		
	% Excluding NA	No.	Skipped	% Excluding NA	No.	Skipped	% Excluding NA	No.	Skipped	% Excluding NA	No.	Skipped	% Excluding NA	No.	Skipped
The time you spend as a volunteer contributing to professional societies (eg, ASNR, ACR, RSNA)			4			2			2			3			1
Never	8.4%	25		5.0%	9		14.0%	16		6.2%	12		12.4%	13	
Rarely	13.4%	40		14.0%	25		12.3%	14		13.5%	26		13.3%	14	
Sometimes	31.2%	93		33.5%	60		28.1%	32		33.2%	64		27.6%	29	
Frequently	27.9%	83		31.3%	56		22.8%	26		30.1%	58		23.8%	25	
Always	19.1%	57		16.2%	29		22.8%	26		17.1%	33		22.9%	24	
NA		130			43			84			66			64	
The time you spend attending CME conferences			5			3			2			4			1
Never	18.9%	77		13.0%	28		25.9%	48		14.9%	37		25.0%	40	
Rarely	19.1%	78		20.0%	43		17.8%	33		19.8%	49		18.1%	29	
Sometimes	30.9%	126		32.1%	69		29.2%	54		31.5%	78		30.0%	48	
Frequently	25.0%	102		28.8%	62		21.1%	39		28.6%	71		19.4%	31	
Always	6.1%	25		6.0%	13		5.9%	11		5.2%	13		7.5%	12	
NA		19			6			13			10			9	
The time you spend reading medical journals			4			2			2			3			1
Never	9.6%	40		5.0%	11		15.3%	29		6.7%	17		14.0%	23	
Rarely	11.1%	46		11.0%	24		11.6%	22		9.9%	25		12.8%	21	
Sometimes	24.8%	103		24.3%	53		24.7%	47		26.2%	66		22.6%	37	
Frequently	35.6%	148		35.8%	78		34.7%	66		36.9%	93		33.5%	55	
Always	19.0%	79		23.9%	52		13.7%	26		20.2%	51		17.1%	28	
NA	2.9%	12			4			8			7			5	
The time you spend away from work			6			3			3			5			1
Never	9.2%	38		3.7%	8		15.2%	29		5.2%	13		15.4%	25	
Rarely	12.6%	52		11.6%	25		13.6%	26		12.3%	31		13.0%	21	
Sometimes	31.6%	131		34.4%	74		28.3%	54		34.9%	88		26.5%	43	
Frequently	30.7%	127		30.7%	66		31.4%	60		32.9%	83		27.2%	44	
Always	15.9%	66		19.5%	42		11.5%	22		14.7%	37		17.9%	29	
NA		12			6			6			5			7	

Note:—ACR indicates American College of Radiology; RSNA, Radiological Society of North America; CME, Continuing Medical Education; NA, not applicable.